Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of performing error diffusion, the method comprising the steps of:

simultaneously processing image data for at least two pixels in a row of pixels, said at least two pixels comprising a first group of pixels and a last pixel, said last pixel abutting a group of pixels to be processed next in said row of pixels;

reducing the precision of said image data to produce a modified image data word and an error word for each pixel;

propagating none of said error word for each pixel in said first group to another pixel in said first group and a portion of said error word for each pixel in said first group to at least two pixels in a next row of pixels; and

propagating a first portion of said error word for said last pixel to at least one pixel in said next row of pixels and a second portion of said error word for said last pixel to at least one pixel in said group of pixels to be processed next;

outputting a data signal for causing a display corresponding to said at least two pixels in said next row of pixels at least in part in response to said portion of said error word for a pixel in said first group; and

outputting a data signal for causing a display corresponding to said at least one pixel in said group of pixels to be processed next at least in part in response to said second portion of said error word.

2. (Original) The method of Claim 1 further comprising the steps of:

generating a pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

subtracting said pseudo random number from said first portion to produce a first modified error word;

adding said pseudo random number to said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

3. (Original) The method of Claim 2, where said first modified error word is added to image pixel data for a pixel directly below the pixel generating the error signal.

4. (Original) The method of Claim 2, where said second modified error word is added to image pixel data for a pixel directly below and to the right of the pixel generating the error signal.

5. (Original) The method of Claim 1 further comprising the steps of: generating a pseudo random number, and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

subtracting said pseudo random number from said first portion to produce a first modified error word;

adding said pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

6. (Original) The method of Claim 1 further comprising the steps of:

generating a pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said pseudo random number to said first portion to produce a first modified error word;

subtracting said pseudo random number from said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

7. (Previously presented) The method of Claim 1 further comprising the steps of:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

8. (Original) The method of Claim 1 further comprising the steps of:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

9. (Previously presented) The method of Claim 1 further comprising the steps of: generating a first pseudo random number, and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

adding said pseudo random number to said first portion to produce a first modified error word;

subtracting said pseudo random number from said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

10. (Original) The method of Claim 1 further comprising the steps of:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

subtracting said second pseudo random number from said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

11. (Original) The method of Claim 1 further comprising the steps of:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

subtracting said first pseudo random number from said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

12. (Currently amended) A display system comprising:

a controller for receiving and processing pixelated image data said controller:

simultaneously processing image data for at least two pixels in a row of pixels, said at least two pixels comprising a first group of pixels and a last pixel, said last pixel abutting a group of pixels to be processed next in said row of pixels;

reducing the precision of said image data to produce a modified image data word and an error word for each pixel;

propagating none of said error word for each pixel in said first group to another pixel in said first group and a portion of said error word for each pixel in said first group to at least two pixels in a next row of pixels; and

propagating a first portion of said error word for said last pixel to at least one pixel in said next row of pixels and a second portion of said error word for said last pixel to at least one pixel in said group of pixels to be processed next;

a light source for generating a beam of light along a first light path; and

a light modulator for selectively modulating light along said first light path in response to image data signals from said controller.

13. (Original) The display system of Claim 12, said controller:

generating a pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

subtracting said pseudo random number from said first portion to produce a first modified error word;

adding said pseudo random number to said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

14. (Original) The display system of Claim 12, said controller.

generating a pseudo random number, and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

subtracting said pseudo random number from said first portion to produce a first modified error word;

adding said pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

15. (Original) The display system of Claim 12, said controller:

generating a pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said pseudo random number to said first portion to produce a first modified error word;

subtracting said pseudo random number from said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

16. (Previously presented) The display system of Claim 12, said controller:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

17. (Original) The display system of Claim 12, said controller:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

18. (Original) The display system of Claim 12, said controller

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

adding said pseudo random number to said first portion to produce a first modified error word;

subtracting said pseudo random number from said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data for a first and second pixel in said next row of pixels.

19. (Original) The display system of Claim 12, said controller:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

adding said first pseudo random number to said first portion to produce a first modified error word;

subtracting said second pseudo random number from said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

20. (Original) The display system of Claim 12, said controller:

generating a first and second pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said second group comprises:

dividing said error word into a first and a second portion;

subtracting said first pseudo random number from said first portion to produce a first modified error word;

adding said second pseudo random number to said second portion to produce a second modified error word;

adding said first modified error word to image data for a pixel in said next row of pixels; and

adding said second modified error word to image data for a pixel in said group of pixels to be processed next.

21. (Previously presented) A method of performing error diffusion, the method comprising the steps of:

simultaneously processing image data for at least two pixels in a row of pixels, said at least two pixels comprising a first group of pixels and a last pixel, said last pixel abutting a group of pixels to be processed next in said row of pixels;

reducing the precision of said image data to produce a modified image data word and an error word for each pixel;

propagating portions of said error word for each pixel in said first group only to pixels in a next row of pixels; and

propagating a first portion of said error word for said last pixel to at least one pixel in said next row of pixels and a second portion of said error word for said last pixel to at least one pixel in said group of pixels to be processed next;

outputting a data signal for causing a display corresponding to said pixels in said next row of pixels at least in part in response to said portions of said error; and

outputting a data signal for causing a display corresponding to said at least one pixel in said group of pixels to be processed next at least in part in response to said second portion of said error word.

22. (Previously presented) The method of Claim 21 further comprising the steps of:

generating a pseudo random number; and

wherein said propagating a portion of said error word for each pixel in said first group comprises:

dividing said error word into a first and a second portion;

subtracting said pseudo random number from said first portion to produce a first modified error word;

adding said pseudo random number to said second portion to produce a second modified error word; and

adding said first and said second modified error words to image data in said next row of pixels.

23 (Previously presented). The method of claim 1 wherein said at least two pixels in a row of pixels are neighboring pixels.

24 (Previously presented). The display system of claim 12 wherein said at least two pixels in a row of pixels are neighboring pixels.

25 (Previously presented). The method of claim 21 wherein said at least two pixels in a row of pixels are neighboring pixels.